**34.** 1.594

**35.** 1.232

**36.** 1.486

**37.** 1.581

**38.** 4.807

**39.** $-0.860$

**40.** $-1.358$

**41.** yes; Using the change-of-base formula, the equation can be graphed as $y = \dfrac{\log x}{\log 3}$.

**42.** 3

**43.** 60 decibels

**44.** 10 decibels

**45.** **a.** $2 \ln 2 \approx 1.39$ knots

**b.**
$$s(h) = 2 \ln 100h$$
$$s(h) = \ln(100h)^2$$
$$e^{s(h)} = e^{\ln(100h)^2}$$
$$e^{s(h)} = (100h)^2$$
$$\log e^{s(h)} = \log(100h)^2$$
$$s(h) \log e = 2 \log(100h)$$
$$s(h) \log e = 2(\log 100 + \log h)$$
$$s(h) \log e = 2(2 + \log h)$$
$$s(h) = \frac{2}{\log e}(\log h + 2)$$